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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,469	04/22/2005	Fabio Vignoli	NL 021053	1612

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EXAMINER	
SAINT CYR, LEONARD	

ART UNIT	PAPER NUMBER
2626	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/532,469	VIGNOLI, FABIO	
	Examiner	Art Unit	
	LEONARD SAINT CYR	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 November 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 11/03/08 have been fully considered but they are not persuasive.

Applicant argues that neither Kaufholz nor Schroder et al., teach discarding utterance if not preceded by recognition of a predetermined keyword (Amendment, pages 10 - 12).

The examiner disagrees, since Schroder et al., disclose "various modifications of this exemplary embodiment are conceivable. For instance, a speech input for switching off the device may also be accepted from any user" (col.3, lines 55 - 60). It is inherent that utterance that is not preceded by recognition of a predetermined keyword is discarded, since **only speech input for switching off the device** is recognized from **any user**.

Applicant requests that examiner provides prior art references clearly illustrating that it is well known to provide indications including an animal in the particular states recited in claims 11 – 14, and 16 – 19 (Amendment, page 13).

As requested, the examiner provides art reference that illustrates the particular states recited in claims 11 – 14, and 16 – 19. Please see claim rejection below.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1- 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schroder et al. (US Patent 7,136,817) in view of Kaufholz (US Patent 7,050,971), and further in view of Kataoka (US PAP 2002/0181723).

Regarding claims 1 and 9, Schroder et al. discloses a speech control unit for controlling an apparatus on basis of speech, comprising:

a microphone array, comprising multiple microphones for receiving respective audio signals (see col. 4, lines 44-46); and

a speech recognition unit for creating an instruction for the apparatus based on recognized speech items of the speech signal (see col. 4, lines 60-62, where the commands are recognized speech items), and a keyword recognition system for recognition of a predetermined, keyword that is spoken by the user and which is represented by a particular audio signal and the speech control unit being arranged to control the beam forming module (see col. 4, lines 60-62, where the commands are the predetermined keywords spoken), on basis of the recognition of the predetermined keyword, in order to enhance second components of the audio signals which represent a subsequent utterance originating from a second orientation of the user relative to the microphone array (see col. 2, lines 38-44);

wherein the recognition of the predetermined keyword at the second orientation so that the subsequent utterance originating from the second orientation are accepted

("The input command for controlling the voice-controlled system is used in method step 8, for example for menu control or navigation"; col.2, lines 39 – 44, col.3, lines 49 – 52);

wherein the subsequent utterance originating from the second orientation will be discarded if not preceded by the recognition of the predetermined keyword originating from the second orientation ("The input command for controlling the voice-controlled system is used in method step 8, for example for menu control or navigation"; col.2, lines 39 – 44, col.3, lines 49 – 52; col.1, lines 44 - 47).

Schroder et al. do not disclose a beam forming module for extracting a speech signal of a user; calibrates the beam forming module to allow the user from the first position to the second position. However this feature is well known in the art as indicated by Kaufholz. Kaufholz discloses a speech recognition apparatus that utilizes a beam former that creates a higher performance and resolution of the resulting microphone signal. The beam former may also select or even tract an audio source. Typically, the loudest source signal is identified (see col. 5, lines 8-15). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was .made to utilize a beam forming module with the apparatus of Kaufholz for the benefit of a higher performance and resolution of the resulting microphone signal.

However Schroder et al in view of Kaufholz do not specifically teach that utterances of other users at other positions are discarded, the second position including an orientation and a distance relative to the microphone array, and the speech control unit being configured to discriminate between sounds originating from users who are located in front of each other.

Kataoka teaches that through beam forming, a gain of a sound from a targeted direction can be increased. For example, a S/N ratio can be enhanced. Since the attention direction of the robot is aligned with incident direction of the voice targeted for the voice recognition…in a state where the robot is performing beam forming, voices from the attenuation direction thereof (the directivity direction of the microphone array) are emphasized, whereby the recognition rate of the voices from that direction can be enhanced (paragraphs 6, and 47).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to increase the gain of a sound from a targeted as taught by Kataoka in Schroder et al in view of Kaufholz, so that voice recognition can be performed with an input of a delay sum corresponding to the directivity direction (Abstract, last two lines).

Regarding claim 2, Schroder et al. further disclose that the keyword recognition system is arranged to recognize the predetermined keyword that is spoken by another user and the speech control unit being arranged to control the beam forming module, on basis of this recognition, in order to enhance third components of the audio signals which represent another utterance originating from a third position of the other user relative to the microphone array (see col. 2, lines 35-44).

Regarding claim 3, Schroder et al. further disclose that a first one of the microphones of the microphone array is arranged to provide the particular audio signal to the keyword recognition system (see col. 4, lines 56-62).

Regarding claim 4, Schroder et al. further disclose that the beam forming module is arranged to determine a first position of the user relative to the microphone array (see col. 4, lines 51-56).

Regarding claim 5, Schroder et al. further disclose that an apparatus comprising: a speech control unit for controlling the apparatus on basis of speech as claimed in claim 1 (see col. 4, lines 60-62); and

processing means for execution of the instruction being created by the speech control unit (see col. 4, lines 60-62).

Regarding claim 6, Schroder et al. discloses an apparatus as claimed in claim 5, characterized in being arranged to show that the predetermined keyword has been recognized (see fig. 1, col. 3, lines 32- 45).

Regarding claim 7, Schroder et al. discloses an apparatus as claimed in claim 6, characterized in comprising audio generating means for generating an audio signal in order to show that the predetermined keyword has been recognized (see fig. 1, col. 3, lines 32-45).

Regarding claim 8, Schroder et al. discloses a consumer electronics system comprising the apparatus as claimed in claim 5 (see col. 4, lines 63-65).

As per claims 10, and 15, Kaufholz further discloses that the user is informed by indications that the speech control unit is not active, is in active state and ready to receive the utterance or is in a state of calibration ("the controller can also check which part is active at the moment of receiving input from the user"; col.7, lines 42 - 54).

As per claims 11-14, and 16 -19, Schroder et al., in view Kaufholz, and further in view of Kataoka do not specifically teach that indications include an animal in a sleeping state indicating inactive state or in an awake state indicating active state; wherein the progress of the active state is indicated by angle of ears of the animal; wherein the ears are fully raised at a beginning of the active state, and fully down at an end of the active state; wherein the animal has an understanding look when the utterance is recognized and a puzzled look when the utterance is not recognized. However since Kataoka discloses that the direction of the targeted voice then can be inputted to the servo system, **whereby a face, eyes, an upper body, or the like of the robot can controlled accordingly. The robot may take a form of an animal such as a mouse, a dog, a cat, or the like…after all, it is satisfactory so far as the robot has capability of the posture control, head motion or eye direction shifts toward the direction of the sound source** (paragraphs 36, last five lines; paragraph 38, last four

lines). One having ordinary skill in the art at the time the invention was made would have it found obvious to indicate different states through an animal in Kataoka, so that voice recognition can be performed with an input of a delay sum corresponding to the directivity direction (Abstract, last two lines).

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEONARD SAINT CYR whose telephone number is (571)272-4247. The examiner can normally be reached on Mon- Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LS
01/07/09

/Richemond Dorvil/
Supervisory Patent Examiner, Art Unit 2626